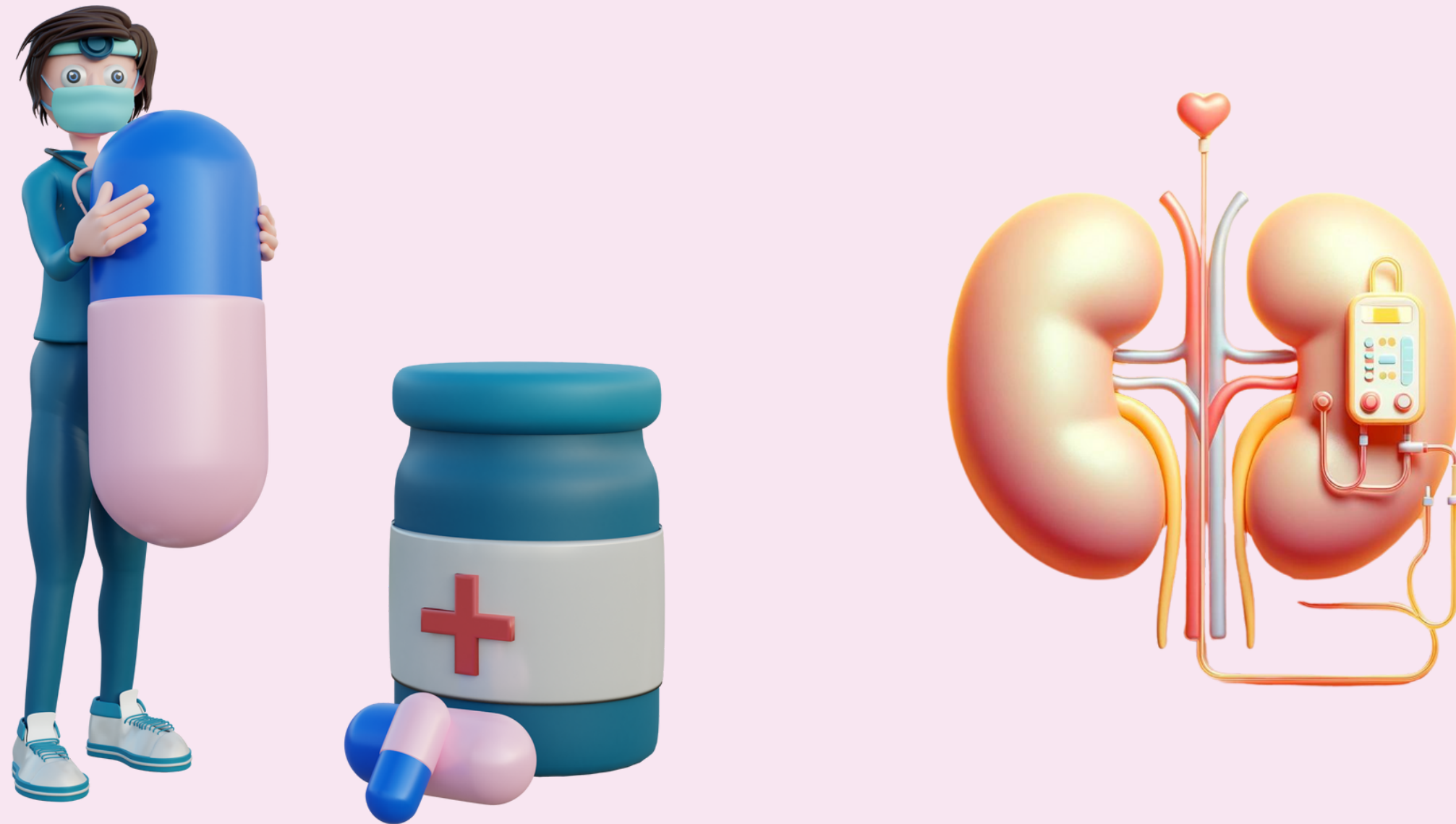


HOW 40% OF DIALYSIS PATIENTS HAD HARMFUL MEDS DEPRESCRIBED:

The Story of a MedSafer, Quality Improvement Study



Presented by Émilie Bortolussi-Courval, RN, PhD Candidate

Presenter Disclosure

Name: Émilie Bortolussi-Courval

• **Relationships with financial sponsors:** None

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• **Consulting Fees:** None

• **Patents:** None

• **Other:** None

POLYPHARMACY AMONG DIALYSIS PATIENTS



Potentially inappropriate medications (PIMs) increase the risk of:

- Falls; Fractures; Hospitalization

1+ PIMs = medication overload

~90% have medication overload

Now what?

DEPRESCRIBING = ADDRESSING PIMS

How?

- Stopping/Tapering/Reducing
- Switching to a safer class
- Clinician supervision
- Shared decision-making

Why? Reduce, reduce, reduce

- The overload
- The pill burden
- The side effects



**A clinician deprescribing
using paper-based tools:
colorized**

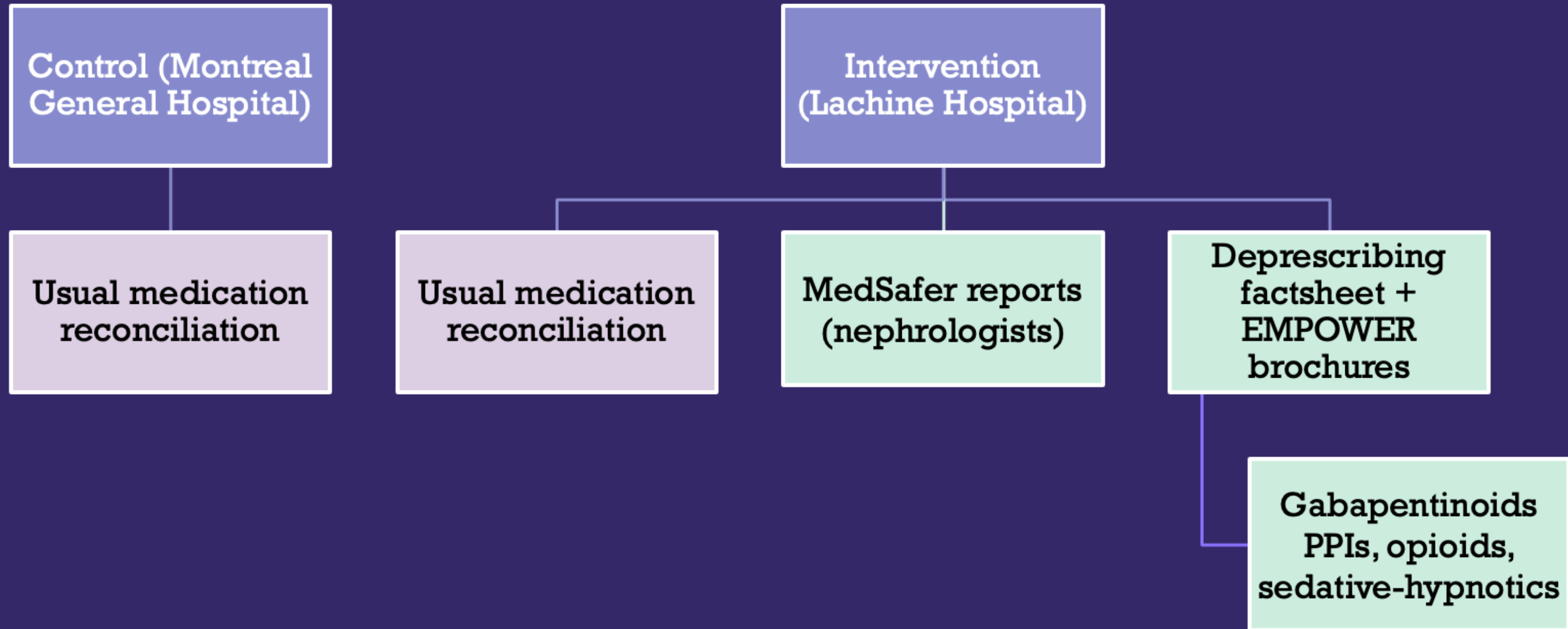




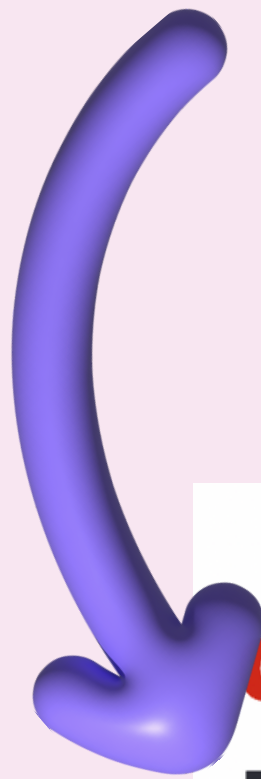
The MedSafer deprescribing software

- Cross-references health data + patient meds with deprescribing guidelines
- Identifies all PIMs, prioritizes them, provides deprescribing possibilities, helps the clinician to deprescribe

THE METHODS



I added some dialysis deprescribing rules to MedSafer



CANADIAN JOURNAL OF
KIDNEY HEALTH AND DISEASE
Journal canadien de la santé et de la maladie rénale

Original Clinical Research Quantitative

Development and Validation of Nine Deprescribing Algorithms for Patients on Hemodialysis to Decrease Polypharmacy

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THE OUTCOMES

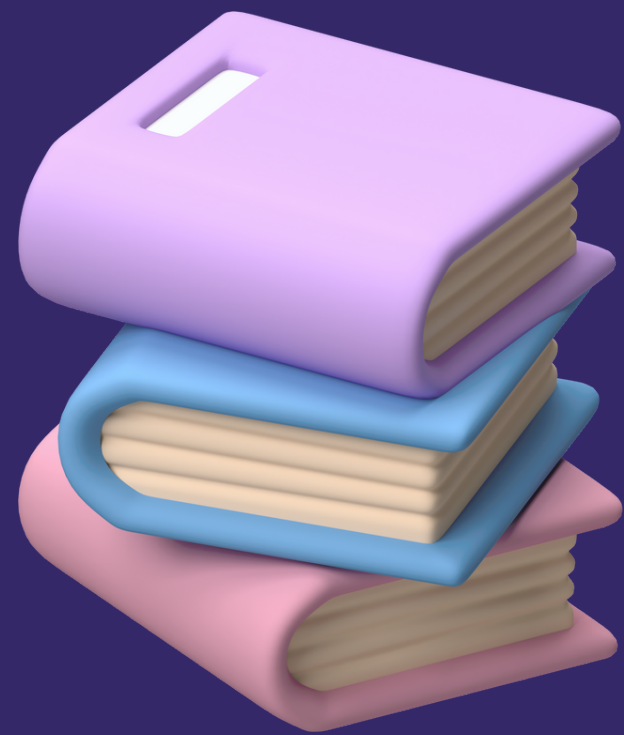
Primary

- The proportion of patients with one or more PIMs deprescribed

Why? Reduce, reduce, reduce

- The overload
- The pill burden
- The side effects





EMPOWER BROCHURES



THE CLASSES

- Gabapentinoids
- PPIs
- Opioids
- Sedatives
- + Basic factsheet (all)

DO THEY WORK?

YES

Designed with patient input, found to independently increase deprescribing in clinical trials



5 PDSA CYCLES

Preceded by systems analysis to identify and address specific barriers inhibiting the success of the intervention

+ interviews with physicians (in peer review)



Enrollment

Assessed for eligibility
(n = 240)

Excluded (n = 26)
No PIMs identified (n = 1)
Died before beginning of intervention (n = 12)
Transferred to another facility before intervention (n = 3)
Transplanted before beginning of intervention (n = 8)
Change of mode of dialysis (n = 2)

Hemodialysis patients
(n = 214)

Allocation

Intervention unit
(n = 77)

Usual MedRec
+ provision of MedSafer reports
+ deprescribing empowerment brochures.

Control unit
(n = 137)

Usual MedRec

Competing events

Lost to competing events
(n = 9)

Died during MedRec (n = 3)
Transferred to another facility during MedRec (n = 1)
Transplanted before MedRec (n = 5)

Lost to competing events
(n = 10)

Died during MedRec (n = 6)
Switched mode of dialysis (n = 2)
Treatment cessation (n = 1)
Transplanted during MedRec (n = 1)

Final analysis

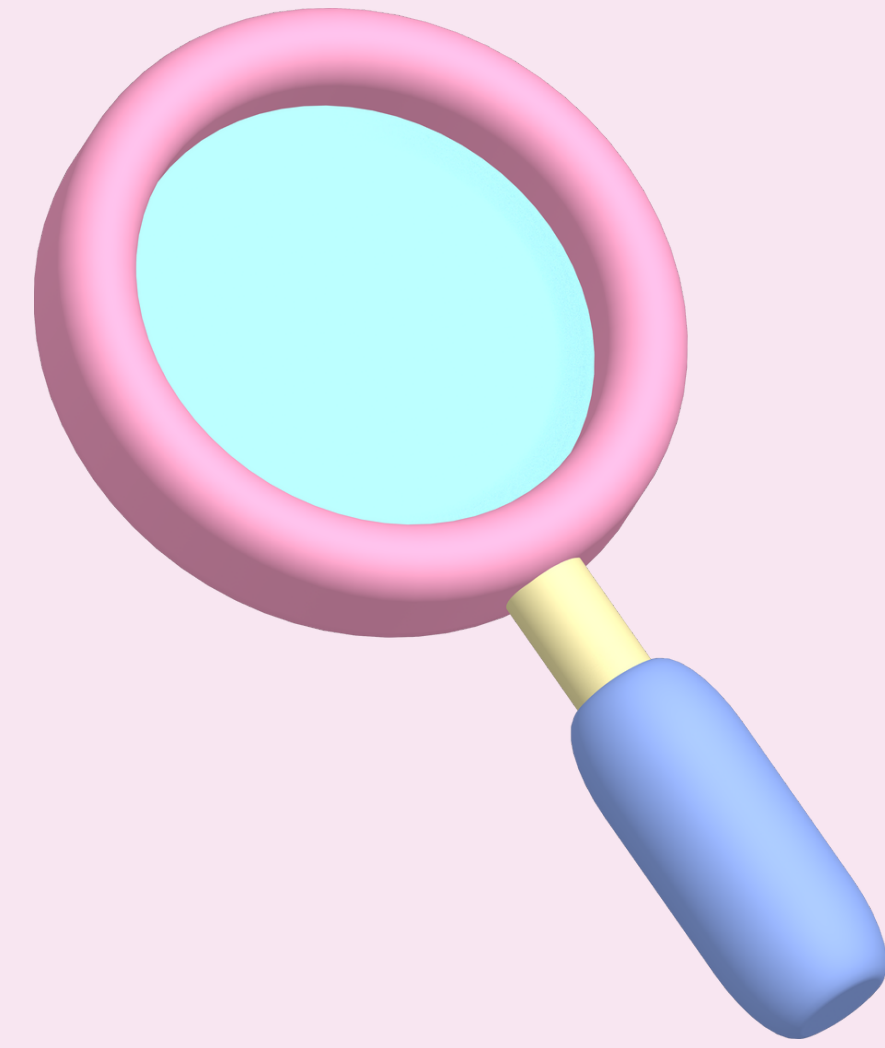
Analyzed
(n = 68)

Excluded from analysis
(n = 9)

Analyzed
(n = 127)

Excluded from analysis
(n = 10)

RESULTS



THE 5 PDOSA CYCLES

- 1 Ordered packages alphabetically
- 2 Only brochures of deprescribed meds, not all PIMs
- 3 "MedSafer" into progress note for data extraction
- 4/5 Email list of pts needing med reconciliation before attending clinic

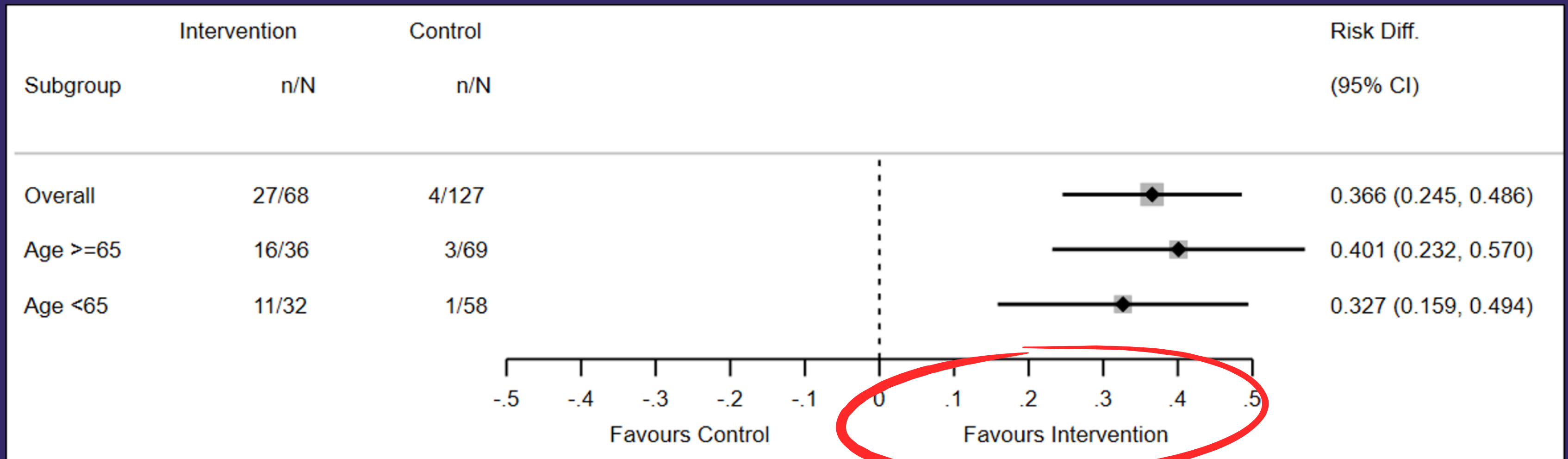
Table 1

Characteristic	Control (n = 127)	Intervention (n = 68)	p-value
Demographic information			
Age, mean (sd)	64.8 (16.9)	64.7 (13.8)	0.95
Female sex	50 (39.4)	22 (32.4)	0.42
Medications			
Number of medications, mean (sd)	15.3 (5.3)	14.6 (4.7)	0.33
Number of PIMs identified, median (IQR)	4 (3-6)	4 (3-6)	0.5
Comorbidity			
Diabetes	79 (62.2)	35 (51.5)	0.15
Diabetic neuropathy	64/79 (81.0)	35/35 (100)	0.006
Hypertension	112 (88.2)	61 (89.7)	0.75
Dyslipidemia	82 (64.6)	42 (61.8)	0.7
Orthostatic hypotension	3 (2.4)	15 (22.1)	< 0.001
Gastroesophageal reflux disease	5 (3.9)	13 (19.1)	< 0.001

PRIMARY OUTCOME

Characteristic	Control (N=127)	Intervention (N=68)	p-value
Number of patients with ≥ 1 PIMs deprescribed (n, %)	4 (3.1)	27 (39.7)	< 0.0001
Absolute risk difference (RD)	RD 36.6 (95% CI 24.5-48.6)		
Number Needed to Treat (NNT)	3		

SUBGROUP ANALYSES - STRATIFIED BY AGE (YOUNGER VS. OLDER THAN 65)



SECONDARY OUTCOME

Mean estimated change in total drugs (95% CI)	REF	-0.54 (95%CI -0.69 to -0.39)	<0.0001
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COUNTERBALANCING MEASURES FOR HARM

	Control unit	Intervention unit
Deaths	2	1
Transplanted	1	2
GIBs	5*	2*

*None were related to deprescribing

SO WHAT?

1st study to measure efficacy of
electronic deprescribing decision
support for clinicians in the dialysis
setting



WHAT WORKED?

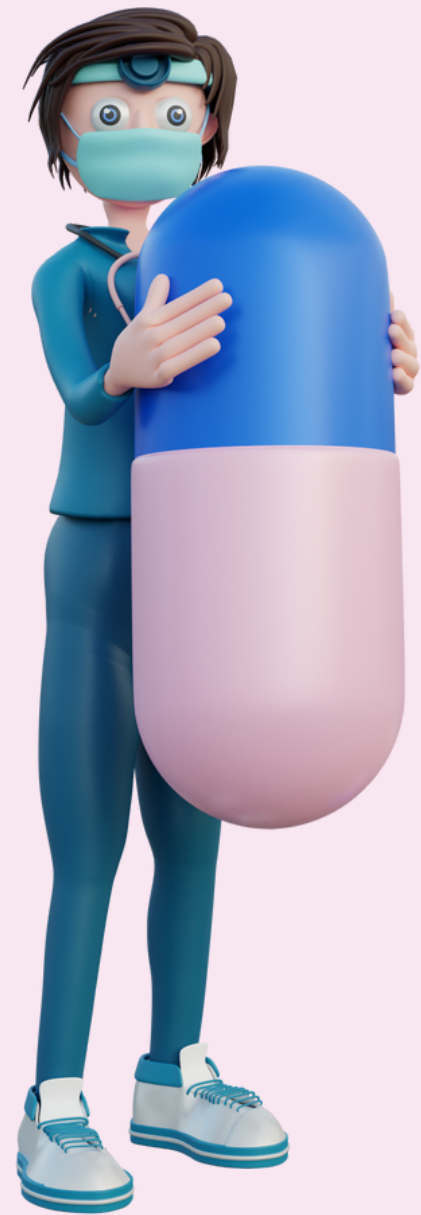
SHARED DECISION-MAKING

- 1st time brochures were given to HD patients

VALIDATED GUIDELINES

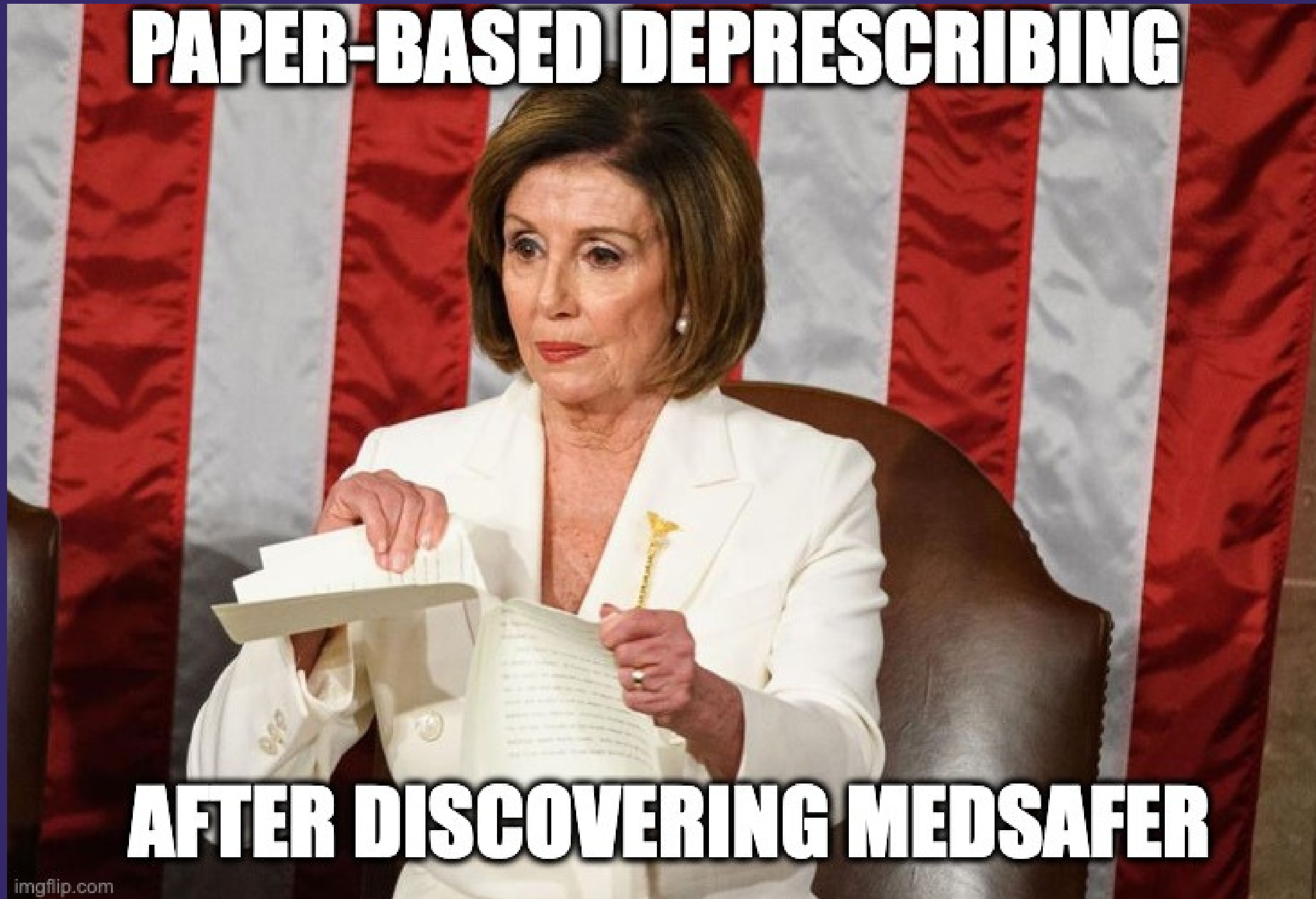
- 1st controlled study with validated dialysis deprescribing guidelines

LIMITATIONS



- Two concurrent interventions
- Represcriptions
- Hawthorne effect?
- Not powered for hard outcomes
 - Reported GIB to counterbalance

PAPER-BASED DEPRESCRIBING



AFTER DISCOVERING MEDSAFER

I DID NOT DO THIS ALONE

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SO I DON'T GET SUED

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COI

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Émilie Bortolussi-Courval

Thank you!

